

**Claims:**

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1. Method for filling a filling compound on synthetic resin basis into the cavity of a tooth, **characterised in that** the filling compound is subjected to the action of sound, especially ultrasound, during the filling process.
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2. The method as defined in Claim 1, **characterised in that** the filling compound is filled into the cavity using a nozzle (12) and that the nozzle (12) is subjected to the action of sound, especially ultrasound, during that process.
3. Hand-held device for filling a filling compound on synthetic resin basis from a supply container (9) into a cavity of a tooth using a nozzle (12) from which the filling compound is ejected, having means (4, 5, 6) for conveying the filling compound from the supply container (9) to the nozzle (12), and having a handle portion (3), **characterised in that** the hand-held device comprises a sound generator, especially an ultrasound generator (13) that sets the nozzle (12) into oscillation.
4. The hand-held device as defined in Claim 3, **characterised in that** the nozzle (12) is a short small tube.
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5. The hand-held device as defined in Claim 3 or Claim 4, **characterised in that** the supply container (9) sits exchangeably in a holder (2) and that the sound generator (13) is coupled to the holder (2) in oscillation-transmitting fashion.
6. The hand-held device as defined in any of Claims 3 to 5, **characterised**

**in that** the sound generator (13) comprises a piezoelectric oscillator.

7. The hand-held device as defined in any of Claims 3 to 5, **characterised in that** the sound generator (13) comprises a magnetostrictive oscillator.
8. The hand-held device as defined in any of Claims 3 to 5, **characterised in that** the sound generator comprises a pneumatically excited oscillator.
9. The hand-held device as defined in any of Claims 3 to 8, **characterised in that** a common actuating element (4) is provided for the sound generator (13) and the conveying means (4, 5, 6).
10. The hand-held device as defined in any of Claims 3 to 9, **characterised in that** it is configured in the way of a spray gun.
11. The hand-held device as defined in any of Claims 3 to 9, **characterised in that** it is configured in the way of a dentist's handpiece.
12. The hand-held device as defined in Claim 10 or Claim 11, **characterised in that** it comprises a lever or a push button as actuating element (4).